

Nov. 6, 1962

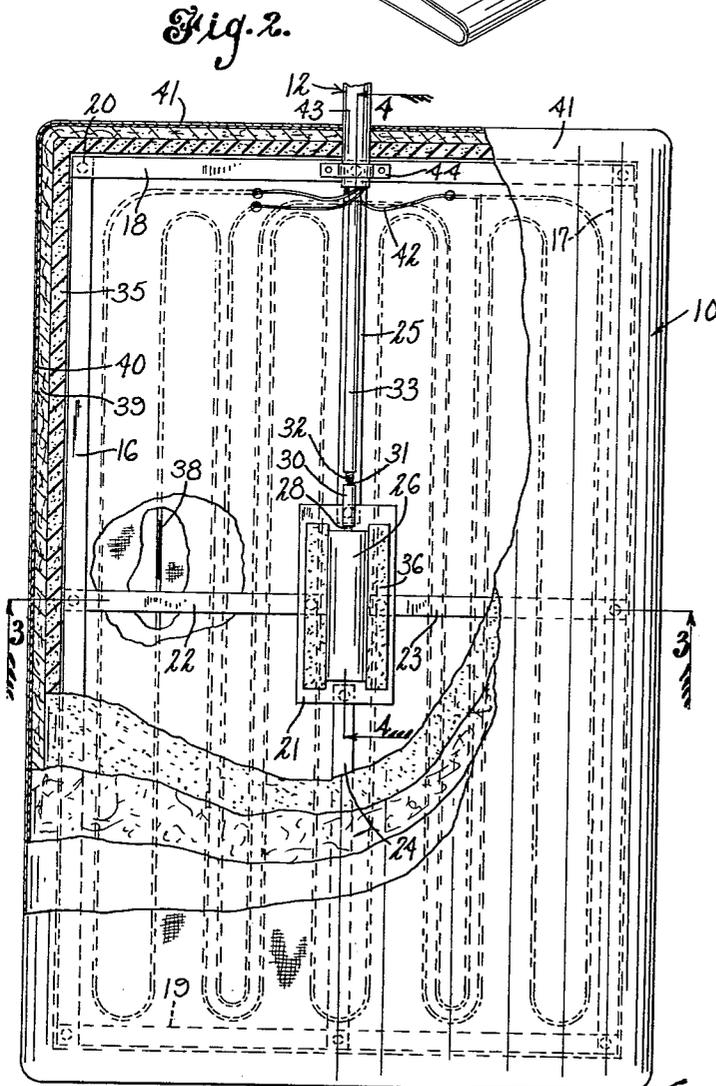
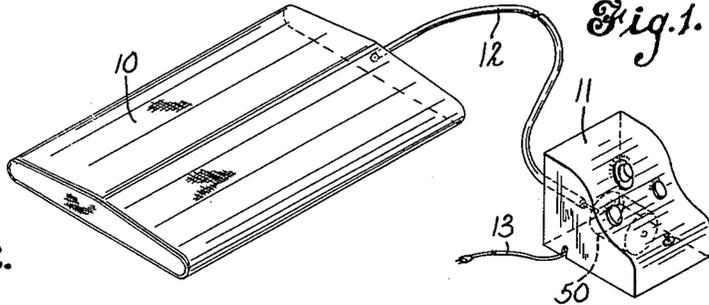
S. ZIFF

3,062,203

HEAT MESSAGE PAD

Filed Oct. 30, 1958

2 Sheets-Sheet 1



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Fig. 3.

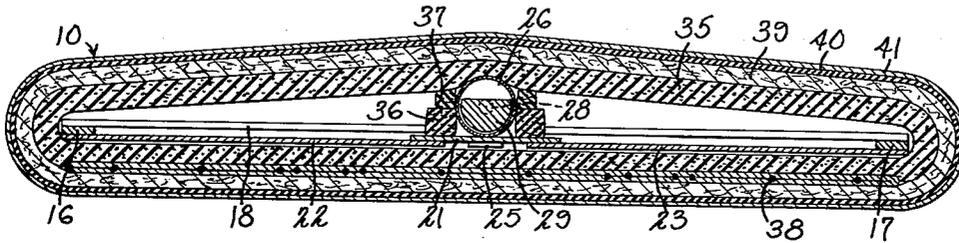


Fig. 4.

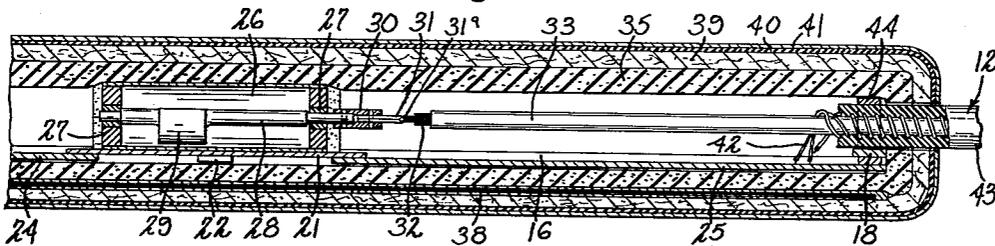


Fig. 5.

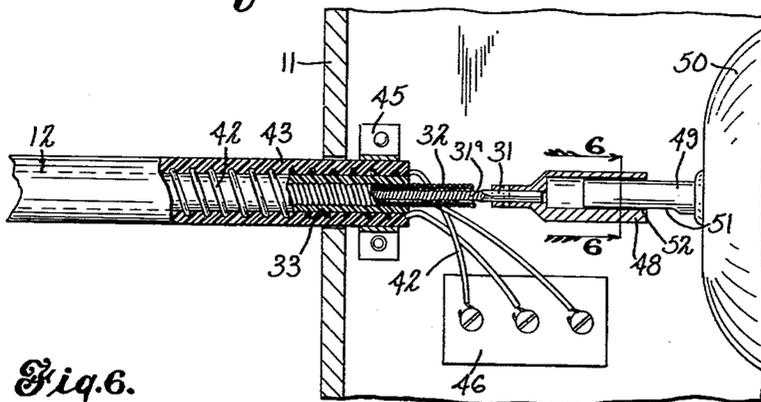
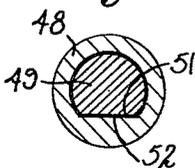


Fig. 6.



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3,062,203

HEAT MASSAGE PAD

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 6 Claims. (Cl. 128—24.1)

This invention relates to a heat massage pad and more especially to a relatively soft flexible pad adapted to be applied to any portion of the body of the user and provided not only with heating means but also with vibratory means to vibrate the pad, thus setting up vibrations in that portion of the body of the user to which it is applied as well as simultaneously applying heat thereto.

As is desirable in a device of this kind, the present invention provides a soft flexible pad which may be readily bent into arcuate or other form, or even doubled upon itself if necessary, comfortably to fit any part of the body and which at the same time is not unnecessarily or excessively bulky. To this end it is contemplated by the present invention to provide the pad with a remote control box in which may be housed not only the controls for the electric current applied to the heating element of the pad, but also the motor which actuates the vibrator embraced within the pad. This control box which contains the motor and the controls referred to may be conveniently placed upon a table or the like where it is within convenient reach of the user and a cable which extends from the control box to the pad may contain a flexible shaft leading from the motor to the vibrating mechanism and also the conducting wires which lead to the heating element. As this control box is not carried by the pad, it may be of sufficient size not only to contain the motor, but to contain a timer to cut off the current to the motor after the lapse of a given time and also contain controls regulating the speed of the motor and the heating of the heating element.

One object of the present invention is to provide a new and improved heat massage pad of relatively light weight which may be comfortably applied to a desired portion of the body of the user and which may be provided with means to vibrate the pad.

A further object of the invention is to provide a heat massage pad of the character described in which the vibrations are obtained by means of a rotatable eccentric member and a remote control box is provided connected by a cable to the pad, the control box containing a motor from which a flexible shaft leads to the vibrator.

A still further object of the invention is to provide a massage heat pad of improved construction having both an electrical heating element and a vibrator element contained therein and also provided with a remote control box within which is contained a motor for actuating the vibrator element and controls for the supply of current to the heating element.

To these and other ends the invention consists in the novel features and combinations of parts to be hereinafter described and claimed.

In the accompanying drawings:

FIG. 1 is a perspective view of a heating pad and remote control box embodying my invention;

FIG. 2 is a plan view of the heating pad, some parts being broken away to show the interior structure;

FIG. 3 is a sectional view on line 3—3 of FIG. 2;

FIG. 4 is a sectional view on line 4—4 of FIG. 2;

FIG. 5 is an enlarged sectional view of a portion of the control box showing the connection therewith of the cable leading from the control box to the massage pad; and

FIG. 6 is a sectional view on line 6—6 of FIG. 5.

To illustrate an embodiment of my invention I have shown in the drawings a massage pad designated generally by the numeral 10, a control box 11 and a cable 12

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leading from the control box to the pad. All of these elements will be described more particularly hereinafter. Leading to the control box is an electric cord 13 which may be plugged into a source of electric current to supply the current for the heating element of the heating pad and also for the motor which actuates the vibrator.

As shown more especially in FIGS. 2, 3 and 4, the pad includes a light rectangular frame of sheet metal strips comprising two side strips 16 and 17 and end strips 18 and 19. These strips may be fastened together at the corners of the frame by suitable means such as rivets 20. Disposed substantially at the center of this frame is a relatively thin metal plate 21, this plate being connected to the side frame members by metal strips 22 and 23 and to the end frame members by metal strips 24 and 25. This frame, while giving some rigidity to the pad, is nevertheless flexible on account of the thinness of the metal strips of which it is formed.

As shown more especially in FIGS. 3 and 4, cylindrical housing 26 is secured to the plate 21, this housing having at its ends bearing members 27 within which is rotatably mounted a shaft 28 carrying an eccentric weight 29 so that rotation of the shaft will set up vibrations in the casing and the pad within which it is embraced.

The shaft 28 may be connected by a coupling 30 to a flexible shaft 31. This flexible shaft preferably comprises a wire core of small size and a winding of a relatively fine wire 31^a coiled around it. The shaft so made is rotatably enclosed within a coiled wire or spring casing 32 which is flexible and which becomes a part of the cable 12 leading to the control box. Preferably the lay of the wire in the casing 32 is opposite that of the wire 31^a coiled about the wire 31. The casing 32 is covered with a jacket 33 of wear- and moisture-resistant, insulating material such as plasticized polyvinyl chloride which also extends through the cable 12 to the control box.

As shown more especially in FIGS. 3 and 4, the metallic frame referred to is embraced within and enclosed by a layer 35 of soft material such as foam rubber or urethane, for example, the lower ply of this material lying below the frame, as shown in FIG. 5, and the upper ply extending over the cylindrical housing 26. Soft strips of the same material designated at 36 and 37 may be disposed upon each side of the housing so as to avoid any sharp protrusion of the pad adjacent the housing.

Below the lower ply of the soft material just referred to is an electrical heating element 38 which may be of any usual construction, and extending around the pad on the outside of this heating element and the plies of the member 35 is a layer of soft material 39 such as cotton batting or the like. It may be noted that the heating element 38 is considerably closer to one face (the lower face as shown in the drawings) of the pad than the other. For this reason one face of the pad will be hotter than the other when the heating element is energized and, therefore, either mild or more intense heat may be applied to the body as desired in addition to the controls provided by the control box.

The layer 39 may be enclosed within a rubberized cover 40 so that the pad will be moisture resistant and this in turn may be covered by a decorative outer covering 41 of suitable fabric material so that the pad will have an ornamental appearance.

As shown more especially in FIG. 4, electric current is supplied to the heating element 38 by conducting wires 42 which may be suitably insulated and these wires are wound around the polyvinyl coating 33 of the flexible casing 32. These wires may then be covered by a further outside coat 43 of polyvinyl plastic which forms the outer member of the cable 12. As shown in FIG. 4, this cable leads through one end of the pad and extends to the control box 11. This cable may be secured to

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the member 18 of the metallic frame by a strap 44 which embraces the cable and has its ends secured to the member 18 (FIG. 2).

As stated the cable extends to the control box, as shown in FIG. 5, to which it may be secured by the strap 45 and the wires 42 are led to a junction box 46. Suitable means (not shown) is provided in the control box to regulate the current supply to these wires so as to regulate the heat of the electrical heat element. Secured to the end of the flexible shaft 31 is a hollow coupling member 48 adapted to slidably receive the shaft 49 of an electric motor 50 mounted within the control box. The shaft 49 is of non-circular shape as it is provided with a flattened side 51 and the interior of the coupling member 48 is similarly provided with a flat face 52 so that the coupling and, therefore, the flexible shaft 31 will be driven by the motor while at the same time allowing longitudinal movement of the coupling with respect to the shaft. This arrangement provides for relative movement between the shaft 31 and the motor 49 due to coiling of the cable 12.

It will be apparent that with the above construction there is provided a combined massage and heating pad of relatively light weight and of flexible construction and which is provided with remote control for the heating element and remote power for the vibrating element. Thus the pad is of relatively light weight and may be comfortably applied to any part of the body to effect both heat and massage.

While I have shown and described one embodiment of my invention, it will be understood that it is not to be limited to all of the details shown, but is capable of modification and variation within the spirit of the invention and within the scope of the claims.

What I claim is:

1. A heat massage pad comprising a body of relatively soft material, an electrical heating element within said body between layers of said material, a vibrator device within said body having a rotatable shaft, a flexible cable secured to the pad and extending therefrom, said cable carrying a flexible shaft connected to the shaft of the vibrator, conductor wires connected to the heating element, a remotely positioned motor to which said flexible shaft is drivably connected, means for connecting said conductor wires to a source of current, said motor and said connecting means being mounted unitarily, said cable having a core comprising said flexible shaft and a casing of coiled wire about said core, an insulating covering of wear-resistant material over said casing, said conductor wires being spirally wound upon said covering, and an outer covering of insulating wear-resistant material over said conductor wires.

2. In a heat massage pad, a structure comprising: a frame including a closed peripheral portion of narrow strips of thin flexible material; a support plate centrally

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positioned within said peripheral portion and having an area substantially smaller than the internal area of said peripheral portion, said frame further including a plurality of thin connecting straps extending from said peripheral portion to said support plate for supporting said plate within said peripheral portion to lie generally in the flat plane thereof; rotatable means secured to said plate for vibrating the plate; driving means including a motor remote from the frame and a flexible shaft connected at one end to the motor and at the opposite end to said vibrating means to operate said vibrating means; pad means carried by the frame; electrical heating means in said pad means; and means carried by said shaft for conducting electrical energy to the heating means.

3. The structure of claim 2 wherein said frame has a generally rectangular configuration and comprises four strips of thin flexible material joined end-to-end.

4. The structure of claim 2 wherein said pad encloses said frame and includes one surface juxtaposed to one face of the frame and another surface spaced from the opposite face of the frame to define a hollow interior in which said vibrating means is disposed.

5. The structure of claim 4 further including resilient means for spacing the pad surfaces apart, said resilient means being positioned closely adjacent the vibrating means and extending longitudinally thereof.

6. In a heat massage pad, a structure comprising: a frame including a closed peripheral portion of narrow strips of thin flexible material; a support plate centrally positioned within said peripheral portion and having an area substantially smaller than the internal area of said peripheral portion, said frame further including a plurality of thin connecting straps extending from said peripheral portion to said support plate for supporting said plate within said peripheral portion to lie generally in the flat plane thereof; rotatable means secured to said plate for vibrating the plate; driving means including a motor remote from the frame and a flexible shaft connected at one end to the motor and at the opposite end to said vibrating means to operate said vibrating means; pad means carried by the frame; electrical heating means in said pad means; and means for conducting electrical energy to the heating means.

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